

CLAIMS

What is claimed is:

1. An ablation catheter comprising:
a catheter shaft defining an inner surface and an outer surface;
at least one braided electrode interposed between the inner surface and the outer surface; and
the outer tubular surface defining at least one braided electrode aperture such that a portion of the braided electrode is exposed.
2. The ablation catheter of claim 1 further comprising:
a lumen within the catheter shaft.
3. The ablation catheter of claim 2 wherein:
the inner surface of the catheter shaft defining at least one fluid aperture providing a fluid flow path past the braided electrode.
4. The ablation catheter of claim 3 further comprising:
an introduction system in fluid communication with the lumen, the introduction system configured to provide a fluid material to the lumen.
5. The ablation catheter of claim 4 wherein the lumen is configured to guide the fluid media through the at least one fluid aperture.
6. The ablation catheter of claim 5 wherein the at least one fluid aperture is located so as to guide the fluid media past the braided electrode substantially to move blood away from the braided electrode to lessen formation of coagulum.
7. The ablation catheter of claim 4 wherein the fluid media comprises a conductive fluid media.
8. The ablation catheter of claim 7 whereby the conductive fluid media is configured to flow past the at least one braided electrode and conduct ablative energy to a target tissue.

9. The ablation catheter of claim 8 whereby the tissue is ablated by at least ohmic energy.
10. The ablation catheter of claim 8 whereby the tissue is ablated by at least convection.
11. The ablation catheter of claim 8 whereby the tissue is ablated by at least conduction.
12. The ablation catheter of claim 1 wherein the at least one braided electrode aperture has a length in the range of about 1 centimeter to about 10 centimeter.
13. The ablation catheter of claim 1 wherein the at least one braided electrode has a length in the range of about 1 centimeter to about 10 centimeters.
14. The ablation catheter of claim 1 wherein the at least one braided electrode aperture has a width in the range of about 60 degrees to about 180 degrees.
15. The ablation catheter of claim 1 wherein the at least one braided electrode generally defines an electrode surface that is recessed below the level of the outer surface of the catheter shaft.
16. The ablation catheter of claim 1 wherein the at least one braided electrode generally defines an electrode surface that is generally flush with the outer surface of the catheter shaft.
17. The ablation catheter of claim 1 wherein the at least one braided electrode generally defines an electrode surface that is raised above the outer surface of the catheter shaft.
18. The ablation catheter of claim 1 wherein the at least one braided electrode is configured to at least partially contact the tissue during use.

19. The ablation catheter of claim 1 wherein the catheter shaft defines a second lumen.

20. The ablation catheter of claim 19 further comprising a control wire connected with the catheter shaft and located within the second lumen.

21. The ablation catheter of claim 20 wherein the control wire is precurved to manipulate the catheter shaft such that the catheter shaft forms a substantially circular shape.

22. The ablation catheter of claim 21 wherein the substantially circular shape is adapted to conform to the inner shape of the pulmonary vein.

23. The ablation catheter of claim 19 wherein the at least one braided electrode is connected with at least one corresponding wire adapted to connect with an ablation energy source.

24. The ablation catheter of claim 23 wherein the at least one wire is routed through the second lumen.

25. The ablation catheter of claim 1 wherein the at least one braided electrode comprises at least a first braided electrode and a second braided electrode, wherein the first braided electrode and the second braided electrode are each separately connected to at least one ablation energy source.

26. An ablation catheter comprising:
braided electrode means for forming an ablation lesion through contact with a target tissue;
catheter shaft means for locating the braided electrode means adjacent the target tissue; and
lumen means for channeling a fluid media past the braided electrode means.

27. A method of manufacturing an ablation catheter comprising:
obtaining a first shaft defining a first outside diameter;

obtaining a second shaft defining a first inside diameter greater than the first outside diameter of the first shaft;

obtaining at least one braided electrode;

placing the first shaft over a mandrel;

placing the at least one braided electrode over the first shaft; and

placing the second shaft over the at least one braided electrode.

28. A method of ablation comprising:

providing for locating an ablation catheter adjacent a tissue to be ablated, the ablation catheter defining at least one braided electrode wherein the at least one braided electrode is connected with a power supply; and

providing for energizing the at least one braided electrode to ablate the tissue.

29. The method of ablation of claim 28 wherein:

the at least one braided electrode comprises a plurality of braided electrodes, and further comprising:

providing for individually energizing each of the plurality of braided electrodes to ablate the tissue.

30. The method of claim 28 further comprising:

guiding fluid past the braided electrode.

31. The method of claim 28 further comprising placing the braided electrode in at least partial contact with the tissue.